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FOREST CARBON, MARKETS AND COMMUNITIES (FCMC) PROGRAM

US GOVERNMENT INVESTMENTS AND POLICIES TO
FACILITATE FOREST CARBON FINANCE AND MARKETS

MARCH 2012

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TABLE OF CONTENTS

TABLE OF CONTENTS	4
ACRONYMS	5
1 EXECUTIVE SUMMARY	7
2 INTRODUCTION	9
2.1 INTRODUCTION TO THE ASSESSMENT.....	9
2.2 BACKGROUND ON THE STAGES OF REDD+ FINANCIAL ARCHITECTURE.....	9
3 ASSESSMENT METHODOLOGY	11
3.1 REDD+ OFFSET SUPPLY.....	12
3.2 REDD+ OFFSET DEMAND.....	12
4 FINANCIAL INSTRUMENTS	14
4.1 POTENTIAL TYPES OF FUNDING SOURCES FOR REDD+.....	14
4.2 MEANS OF RISK REDUCTION.....	15
5 USG PRIORITIES AND ACTIVITIES IN REDD+ AND FOREST CARBON	17
5.1 USG REDD+ STRATEGY OVERVIEW.....	17
5.2 DEPARTMENT OF STATE.....	18
5.3 UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT.....	18
5.4 OVERSEAS PRIVATE INVESTMENT CORPORATION.....	19
5.5 DEPARTMENT OF TREASURY.....	20
5.6 MILLENNIUM CHALLENGE CORPORATION.....	20
5.7 OTHER USG REDD+ RELATED ACTIVITIES.....	20
6 RECOMMENDATIONS TO USG TO PROMOTE REDD+ PRIVATE FINANCE AND MARKETS	22
6.1 USG: REDD+ COORDINATION & FOCUS.....	24
6.2 USAID EGAT: IMPROVED PROCESSES FOR SECURING LAND & CARBON TENURE.....	25
6.3 USAID EGAT: HARMONIZING REFERENCE EMISSIONS LEVELS, MRV & FINANCIAL MECHANISMS.....	26
6.4 USAID: DEVELOPMENT INNOVATION VENTURES.....	27
6.5 USAID: GLOBAL DEVELOPMENT ALLIANCE.....	28
6.6 USAID: DEVELOPMENT CREDIT AUTHORITY.....	29
6.7 OPIC: FUND INVESTMENTS.....	30
6.8 OPIC: POLITICAL RISK INSURANCE.....	31
6.9 OPIC: LOAN STRUCTURES.....	32
6.10 US TREASURY: TROPICAL FOREST CONSERVATION ACT.....	33
6.11 US TREASURY: OFFICE OF TECHNICAL ASSISTANCE.....	34
6.12 ENVIRONMENTAL PROTECTION AGENCY.....	34
6.13 FEDERAL TRADE COMMISSION: RULES ON GREEN MARKETING CLAIMS.....	35
6.14 MILLENNIUM CHALLENGE CORPORATION.....	36
6.15 USG REDD+ CARBON PURCHASE FACILITIES.....	36
6.16 USG REDD+ SMALL-GRANT FUNDING FACILITIES.....	38
6.17 US GOVERNMENT SECONDARY OPPORTUNITIES.....	38
7 REFERENCES	41
APPENDIX I: SUMMARY TABLE OF RECOMMENDATIONS	43
APPENDIX II: INSTITUTIONS CONSULTED FOR THIS REPORT	45
APPENDIX III: AGENCIES, BOARDS, COMMISSIONS, CORPORATIONS, COUNCILS, DEPARTMENTS, AND PROGRAMS REVIEWED	46

ACRONYMS

ACR	American Carbon Registry
AFOLU	Agriculture, Forestry and Other Land Use
CARPE	Central African Regional Program for the Environment
CAA	Clean Air Act
CCB	Climate, Community, and Biodiversity Standard
CCX	Chicago Climate Exchange
CFTC	Commodities Futures Trading Commission
CIF	Climate Investment Fund
CSR	Corporate Social Responsibility
DCA	Development Credit Authority
DIV	Development Innovation Ventures
EGAT	Economic, Growth, and Trade
EPA	Environmental Protection Agency
ERPA	Emission Reduction Purchase Agreement
FCMC	Forest Carbon, Markets and Communities Program
FCPF	Forest Carbon Partnership Facility
FIP	Forest Investment Program
FTC	Federal Trade Commission
GCCI	Global Climate Change Initiative
GDA	Global Development Alliance
GEF	Global Environmental Facility
GHG	Greenhouse Gas
GIS	Geographic Information System
JNRI	Jurisdictional and Nested REDD Initiative
LDCF	Least Developed Countries Fund
LEDS	Low Emissions Development Strategies
MCC	Millennium Challenge Corporation
MRV	Monitoring, Reporting and Verification
mtCO _{2e}	Metric Ton Carbon Dioxide Equivalent

NGO	Non-Governmental Organizations
OPIC	Overseas Private Investment Corporation
OTA	Office of Technical Assistance
PPP	Public-Private Partnerships
PPRC	Pilot Program for Climate Resilience
PRI	Principles for Responsible Investment
REDD+	Reducing Emissions from Deforestation and Forest Degradation in Developing Countries; and the Role of Conservation, Sustainable Management of Forests and Enhancement of Forest Carbon Stocks
REL	Reference Emissions Levels
SCCF	Special Climate Change Fund
SEC	Securities and Exchange Commission
SES	Social and Environmental Soundness
SRI	Socially Responsible Investment
SOP	Standard Operating Procedures
SREP	Program for Scaling-Up Renewable Energy in Low Income Countries
TFCA	Tropical Forest Conservation Act
UNEP	United Nations Environment Program
UNEP FI	UNEP Finance Initiative
UNFCCC	United Nations Framework Convention on Climate Change
USAID	United States Agency for International Development
USG	United States Government
USTDA	United States Trade and Development Agency
VCS	Verified Carbon Standard

I EXECUTIVE SUMMARY

Forests are disappearing globally at an alarming rate. Huge amounts of emissions are released into the atmosphere as forests are cleared to make room for other forms of land use. Deforestation and forest degradation are the source of at least 15% to 20% of global greenhouse gas emissions (IPCC, 2007; Van der Werf, 2009). In response, in October 2010, the United States Government (USG) launched its strategy for Reducing Emissions from Deforestation and Degradation (REDD+) and increasing carbon sequestration in forests in developing countries. This has been followed by USAID launching its Climate Change and Development strategy in January 2012. Both strategies support REDD+ as a method to combat global climate change because it protects ecosystem biodiversity and helps to preserve livelihoods and welfare of people in developing countries. The USG has pledged US\$ 1 billion in “fast start financing” between 2010 and 2012 to support the development of REDD+, including assistance in promoting markets for REDD+.¹

But meaningfully reducing global deforestation requires far greater investment and necessitates that the bulk of activities be funded with various forms of private capital. Annual investment in the REDD+ sector is currently below US\$ 200 million, but the investments needed to reduce deforestation by 50% in 2030 are estimated to be between US\$ 17 - US\$ 28 billion annually (Eliasch, 2008). The United States Agency for International Development (USAID) has contributed significantly to the creation and execution of the US REDD+ Strategy through global, regional and mission-based activities. USAID commissioned this report to identify how USG investments and policies could facilitate and catalyze private sector and public sector investment in the buying and selling of forest carbon credits.

While the role of the USG is not to administer the REDD+ market, it can contribute to an enabling environment that incentivizes private and public investments by promoting REDD+ country national institutional conditions, supporting investment ready mitigation activities, providing primary capital, increasing investment certainty, and mitigating risks. According to a recent United Nations Environment Program study (Ward et al., 2009), existing public finance mechanisms and new mechanisms in development can catalyze and leverage private finance for climate solutions and low carbon growth up to a 15:1 ratio. Building upon the UNEP study and the wider evidence base for REDD+ investment, this report assesses where and how USG agencies, can contribute to further finance markets for REDD+ and catalyze private sector investment.

In the course of research for this report, private sector participants summarized four priority areas for USG activities that could catalyze private investment in REDD+:

- **Pay-for-Performance Purchase Facilities:** Private investors will require a return to provide capital to reduce deforestation. Returns are driven by markets which are ultimately driven by the existence of sizeable, investment-grade (meaning a low risk of default) secondary demand for the asset created by the investment (in this case emission reductions). Until substantial market demand is generated and becomes self-propelling, the USG could help to fill this void by attracting private capital to the sector. Creating a well-structured and sizeable REDD+ purchase facility could go a long way to encourage private sector participation and investment. A REDD+ purchase facility refers to a mechanism whose role is to purchase REDD+ verified emission reductions that cannot be sold in the market yet or provide downside price protection while the market is uncertain.

¹ Using forests as a climate change mitigation strategy can include: buying and selling forest carbon credits in the voluntary market; the potential to participate in any programs or opportunities that come out of the international negotiations around REDD+; and participating in a potential market for forest carbon credits driven by either domestic, regional, or international restrictions on carbon emissions. In this document, all of the above-described methods for exchanging forest conservation for some sort of compensation will be referred to as REDD+.

- **Sources of Capital:** In early markets without clear rules, the risks to investors are often too high and discourage participation. However, the Overseas Private Investment Corporation (OPIC) can lower this risk through direct financing with loans, structured debt, and fund investments. In addition, OPIC and USAID Development Credit Authority (DCA) can offer loan guarantees through which investor equity capital returns can be leveraged and the risk of providing direct loans can be reduced. Donor funding and public-private partnerships can provide development assistance to: 1) support projects and programs in becoming “investment-grade;” and 2) create a pathway to ensure that REDD+ activities that are following project-based accounting standards, like the Verified Carbon Standard, can be seamlessly incorporated into the national REDD+ system with limited impact on the number of emission reductions produced, the manner in which offset sales can occur, and the fees paid to the government.
- **Risk Management:** In many cases, REDD+ activities take place in countries that have difficulty attracting commercial investments at scale. The USG can provide political risk coverage through OPIC, an established mechanism that could encourage investment for REDD+ activities, but is not well known or understood by many market participants.
- **Scaling and Standardizing:** The current REDD+ marketplace exists as a series of independent, individual projects, each of which has to “re-invent the wheel” by finding committed investors, establishing emission transaction documentation, and so forth, resulting in high transaction costs. The USG has many tools, including institutions that set accounting, legal, and tax regulations, at hand that can be used to standardize aspects of the REDD+ host country institutional frameworks, carbon rights tenure, transactions processes, and accounting and legal structures.

This report gives a set of recommendations of the public funds, interventions and financial instruments that are either already available within USG agencies and can be applied to REDD+ as is, or that can be further developed and elaborated to efficiently and effectively catalyze new funding for private sector investment and market-based REDD+ approaches. The detailed recommendations are in Table 3 and Table 20 in Section 6 and in Table 21 in Appendix I.

2 INTRODUCTION

2.1 INTRODUCTION TO THE ASSESSMENT

The Forest Carbon, Markets and Communities (FCMC) Program is part of USAID’s efforts to support the USG’s involvement in reducing emissions from deforestation and degradation (REDD+), a mechanism to reduce emissions from and sequester carbon in forests and promote socio-economic and biodiversity benefits. The purpose of the US Government’s US\$ 1 billion pledge in “fast start financing” is to assist countries in developing REDD+ plans that also reduce greenhouse gas (GHG) emissions and contribute to sustainable livelihoods and biodiversity protection, and respect the rights of indigenous peoples, women, and vulnerable populations. USAID launched the FCMC Program in 2011 to assist the USG, partner governments and international stakeholders in developing these initiatives.

The importance of publically funded initiatives to catalyze private investment in the REDD+ sector cannot be understated. Estimates from the Stern Review on the Economics of Climate Change indicate that between US\$ 17 to US\$ 33 billion per year is needed to half deforestation up to 2030, and that without sources of private capital catalyzed by public sector initiatives, REDD+ will not receive the necessary required funding to impact climate change mitigation goals. This assessment focused on how the USG can seek to maximize the impact of available public initiatives to leverage and catalyze private investment to meet the annual funding needs of the REDD+ sector.

As part of the assessment, information was compiled on financial programs, instruments, and structures within different USG agencies that could be either taken as-is, or adopted and modified, to promote REDD+ markets. The long-term success of REDD+ depends on its ability to attract private capital at scale. The assessment provides recommendations on how USG programs and financial instruments can help to guide and attract private capital flows and jumpstart these markets by attracting and engaging multi-source financial structures. In general the programs and instruments evaluated as potential points of leverage included risk management products, loan guarantees, registries, settlements and clearinghouses, audits and verification, public and private debt issuance, public-private partnerships (PPP), equity markets, municipal finance, emission reduction purchase agreements (ERPA), pay-for-performance based public funding, institutional capacity development, and investment ready donor-based support.

Section 3 details the assessment methodology used to categorize various opportunities and defines these categories as they relate to REDD+. Section 4 defines several financial instruments discussed throughout the report as a reference tool defining basic financial terms used throughout the report. Section 5 describes USG priorities for forest carbon finance and markets and explains the direct or indirect efforts of several USG agencies to support REDD+ activities. Section 6 then presents the recommendations for the USG on opportunities to promote of private finance and markets for REDD+.

2.2 BACKGROUND ON THE STAGES OF REDD+ FINANCIAL ARCHITECTURE

Since the publication of the Meridian Report (Angelsen et al, 2009), an analysis of REDD+ as a mechanism for emission reduction funded by the Government of Norway, much of the focus on how REDD+ will be implemented and ultimately financed has followed the three phase approach detailed in the report:

- Phase 1: Readiness and capacity-building, accompanied by pilot and demonstration activities;
- Phase 2: Reform and implementation of national policies and REDD+ strategies; and

- Phase 3: Pay-for-performance based on reductions in deforestation levels.

Phase 1 entails funding for public planning, organization and initial capacity-building; Phase 2 entails funding for the implementation of national REDD+ strategies by governments; and Phase 3 entails ‘performance-based’ funding for the implementation of concrete REDD+ projects and programs on the ground.

The United Nations Framework Convention on Climate Change’s (UNFCCC) Cancun Agreements specifically requested developed country support, with public finance, the implementation of Phases 1 and 2 (UNEP–FI, 2011) and cited the eventual evolution of REDD+ to a system of performance-based payments under Phase 3.

The Durban platform (UNFCCC, 2011) takes the commitment to results-based finance and markets farther as it:

- Calls that for developing country Parties undertaking results-based actions to obtain and receive results-based financing, these actions should be fully measured, reported and verified and developing country Parties should have the elements referred to in decision 1/CP.16, paragraph 71;
- Agrees that results-based financing provided to developing country Parties that is new, additional and predictable may come from a wide variety of sources, public and private, bilateral and multilateral, including alternative sources;
- Considers that, in the light of the experience gained from current and future demonstration activities, appropriate market-based approaches could be developed by the Conference of the Parties to support results-based actions by developing country Parties.

Experience over the last three years, has shown that there is great disparity amongst REDD+ host countries’ abilities to move through these phases, that the phases can occur concurrently in some form, and that REDD+ host countries have varying views on systems that provide pay-for-performance or results-based payments for verified emission reductions and systems that invite private investments and the use of markets.

A byproduct of the phased approach and the majority of funding coming from multilaterals and bilaterals to REDD+ host countries, is that private sector investors have had a minimal role in policy development, reference emission levels (REL) and monitoring, reporting and verification (MRV) design, and input on the programming of public spending in the sector.

The USG can assist with all three REDD+ phases to catalyze forest carbon markets and private sector financing via several instruments, programs and financial structures which are described in Section 6. By incorporating viewpoints and requirements from private sector entities early on in this process, the likelihood of large-scale involvement of commercial market participants will increase and thus will lead to a successful international REDD+ market place that can tackle the challenges of the climate change and sustainable development by establishing REDD+ as an attractive asset class.

3 ASSESSMENT METHODOLOGY

In order to evaluate USG opportunities for promoting finance and markets for REDD+ activities, this report applies the REDD+ finance and markets enabling framework assessment methodology tool shown in Table 1. This assessment methodology tool can be used to identify challenges and map opportunities for USG REDD+ investments and interventions. Through addressing the challenges outlined in this framework, the USG can mobilize financing from multiple sources, including the private sector, to reduce the long-term trajectory of forest-related emissions. The assessment was conducted through a desktop literature review and analysis of various USG and non-USG agencies (Appendix III). A limited number of formal and informal interviews were conducted to further enhance desktop sources (Appendix II).

The assessment methodology tool shown in Table 1 and applied throughout Section 6 is organized into activities necessary to promote **REDD+ Offset Supply** and **REDD+ Offset Demand**. These activities are further divided into key enabling requirements (quadrants) shown in Table 1. **REDD+ Offset Supply** includes **Institutional Platforms**, and **REDD+ Mitigation Activities**. **REDD+ Offset Demand** includes **Primary Capital**, and **Secondary Capital**. Using this assessment methodology tool, the paper arrives at a set of immediately actionable next steps available to the USG that promote private finance and market-based systems for REDD+. Note that in Table 1 each activity and quadrant is followed in parenthesis with the appropriate Section number in the report for further explanation.

Table 1: REDD+ Finance and Markets Enabling Framework

REDD+ FINANCE AND MARKETS ENABLING FRAMEWORK	
REDD+ OFFSET SUPPLY (3.1)	REDD+ OFFSET DEMAND (3.2)
Availability of “investment-grade” multi-scale land use emission reductions that meet end-demand requirements and ensure stakeholder protections.	Creating end-user need to for emission reductions, enabling market conditions that support primary and secondary capital and reduce risk.
INSTITUTIONAL PLATFORMS (3.1.1) REDD+ host county policies, administrative processes, reference emission levels (REL) and MRV, support systems, financial/benefits mechanisms and social and environmental soundness (SES) safeguards.	PRIMARY CAPITAL (3.2.1) Direct funding and risk mitigation tools that support and catalyze early investments in emissions reductions.
REDD+ MITIGATION ACTIVITIES (3.1.2) Mitigation activities under government led programs and projects that are “investment-grade” and provide social and environmental soundness (SES) safeguards.	SECONDARY DEMAND (3.2.2) Activities that create end-buyers of emission reductions as well as promote a well-functioning market.

This REDD+ finance and markets enabling framework lays out the requirements needed to promote large-scale sustainable investment in REDD+ from both public and private sources of funds and to ensure rights holder’s protections. As detailed below, supply is necessary to both produce emission reductions and to provide private investors activities that are conducive to investment. Demand is necessary to support the return opportunities for those providing primary capital and to provide long-term income streams to governments, communities and private companies who produce verified emission reductions.

3.1 REDD+ OFFSET SUPPLY

Building supply requires addressing the availability of REDD+ host-country institutional supporting systems and investment-grade emission reductions from REDD+ activities that meet private investors' requirements. Measures that influence the supply side of REDD+ markets are categorized by Institutional Platforms and REDD+ Mitigation Activities. For example, some recommendations for USG can influence the general structure of REDD+ readiness and capacity in a host country, such as REL, MRV, administrative policies and support systems, while other recommendations will promote REDD+ by directly supporting the development of investment-ready mitigation activities, such as issuing insurance for REDD+ projects on the ground.

3.1.1 Institutional Platforms

Building institutional REDD+ in host countries to support private investment and market participation requires the government's ability to build policy and legal frameworks, administrative processes, financial benefit-sharing mechanisms, social and environmental safeguards (SES), and financial accounting standards.² Each of these elements of a REDD+ institutional platform must be designed to lower risk for outside investors but also put in place the proper incentives to promote local and region mitigations activities and their ability to be rewarded for successful production of verified investment-grade emission reductions. The recommendations to the USG within Section 6 deal with issues such as clear land and carbon title, REL and MRV carbon accounting systems that support local actions within the national context, the availability of educated staff in private sector and finance activities, law enforcement, financial infrastructure, processes and procedures for gaining government approvals that catalyze investment.

3.1.2 REDD+ Mitigation Activities

Ensuring a sustainable supply of well-designed and measurable mitigation activities at the project (local) and "jurisdictional" (national and subnational) levels that meets investors' requirements is a key component in promoting private investment. Funding support (for technical assistance and capacity development) and financial return incentives have to be in place to build REDD+ projects and programs in a commercial setting. The project must be commercially viable in order for REDD+ to compete against alternative land uses from the project developers prospective. Furthermore, for REDD+ projects to be accepted and implemented by local populations, the land and carbon rights must be clear and the benefits they stand to gain must be clearly known. While a number of REDD+ projects are being developed, there are more struggling to attract donor start-up funds, and even more that cannot meet the commercialization requirements of private investors, let alone structure a "fair deal" with investors, which requires using complex REDD+ financial transactions.

3.2 REDD+ OFFSET DEMAND

Both the availability of primary capital that provides key upfront private funding and end-market demand must be in place to create scaled sources of private funding for REDD+. In the absence of market-based federal regulation, the USG can implement instruments or programs that can have an effect on the level of demand for emission reductions units from REDD+ activities. USG agencies can significantly impact global demand through various instruments that mitigate risk while enhancing return. Demand can be categorized as primary capital and secondary demand.

² Financial accounting standards refer to having in place for all the legal entities involved in the REDD+ project the practices, recordkeeping and audits to ensure that their financial statements reflect true and fair value of the organization and its REDD+ assets.

3.2.1 Primary Capital

Primary market capital, i.e. direct funding for investments in REDD+, is a critical component of the demand equation in that it provides the upfront project financing needed to implement REDD+ mitigation activities. The USG can implement a number of activities to provide primary capital and attract more primary capital from private investors to the sector. These can be direct funding, subsidized private funding and risk mitigation tools that support early investments in emissions reductions. Primary capital is absolutely essential in order to get REDD+ activities started and financed, and USG supported structures and instruments can play a significant role in building primary capital pools.

3.2.2 Secondary Demand

Only the existence of secondary demand, to provide primary investors with ways to exit (sell or trade) their early investments, will ensure that sufficient amount of private capital will invest in REDD+ activities. Today, there is a small pool of demand from voluntary buyers and emerging markets in California, Japan and possibly Australia and South Korea (Brennan and Durschinger, 2011). But sizeable secondary demand is necessary to attract the required private capital and make the transition from REDD+ being a niche sector in climate mitigation to a standardized investable asset class with clearly defined parameters and quality safeguards to attract large scale institutional investments.

Only when there is trading activity that creates enough exit opportunities (meaning there are enough potential buyers when an investor wants to sell) will a sufficient quantity of investors engage in this sector. A high level of liquidity also provides for sufficient price discovery, similar to the housing market where information on a high number of comparable house sales must be available in order to determine a meaningful appraisal value. And of course, any secondary market needs clear tax and accounting rules, and reliable execution and contract enforcement.

4 FINANCIAL INSTRUMENTS

One of the key goals of the USG REDD+ Strategy is to leverage capital, both public and private. Understanding the various financial instruments and how they can provide direct funding or be used to leverage other sources of capital and/or reduce risk is important. Section 4 provides a basic summary of the sources of funds and instruments for risk reduction, which will provide a foundation for the recommendations in Section 6.

4.1 POTENTIAL TYPES OF FUNDING SOURCES FOR REDD+

The various types of potential funding sources for REDD+ listed below can support different types of activities and come with a variety of sets of terms and conditions. In other words, not all dollars are created equal. For example, an equity investment of US\$ 5 million in a specific project or a corporate social responsibility (CSR) buyer who enters into a US\$ 5 million emission reduction purchase agreement for a forward stream of voluntary carbon emission reductions, besides having the same notional value, will be very different in terms of return expectations, risk aversion, required quality of the counterparty, and required co-benefits of the delivered carbon emission reductions. The list below outlines the potential sources of funds along with some of their key terms and conditions.

- **Direct Loans to Projects:** Bank/investor loans money to a project, the project must post collateral or otherwise demonstrate to the bank/investor that it is able to repay the principal loan amount plus interest. The riskier the investment, the higher the interest rate the investor requires. Factors that influence the rate and other loan terms include country risk, technology risk, operational risk, counterparty risk, market risk, etc.
- **Direct Equity Investments:** An investor takes an equity stake in a project by investing a dollar amount in exchange for partial ownership in the underlying project operating entity. An equity investment is riskier than debt because re-payment is not secured. But if a project is successful, the potential upside for an equity investor is greater than for a debt investor.
- **Pooled Equity Investments:** A pool of capital in the form of a private equity fund makes an investment in multiple projects either through direct equity investments or emission reduction purchase agreements. Pooled equity vehicles provide the same type of investment to projects as a direct equity investments, but due to professional nature of fund managers who can attract pools of private capital and the diversification offered to end investors in the fund, these structures are more likely to sustainably scale as the market grows.
- **Green Bonds:** Bonds are a form of fixed income investment. They generally have a rating and pay a predictable return in the form of a coupon. The riskier the bond, the higher the return to attract investors. So called green bonds or climate bonds are specifically designed to finance climate-related activities, such as renewable energy or energy efficiency. Green bonds could be used to fund seed capital and working capital funds.
- **Emissions Reduction Purchase Agreements (ERPA):** A buyer of emission reductions can enter into an ERPA that outlines terms and conditions of the sale, including price, volume and the delivery schedule. These ERPAs can be structured to provide upfront payments for a portion of the future emission reductions thus providing required project finance much like an equity investment. Analogous to the financing of power plants where the forward sales of power through power purchase agreements are used secure financing ahead of construction.
- **Donor Funds:** Public and private funds that do not require repayment or returns. These funds can be provided as; many forms of grants, matches to private investments, pay-for-performance emission reductions, and pools and targeted technical assistance.

- **SRI / PRI / CSR Investments:** A growing number of investors look for outcomes beyond just monetary returns from their investments. This includes foundations that make program related investments (PRI) and mission related investments (MRI) that support the foundation’s programmatic goals but are not part of their charitable distribution requirements. PRI and MRI are willing to take a below market rate return (or no return, just capital repayment) for providing funding for activities aligned with their mission. An estimated \$742 million in assets are committed to PRI (The Foundation Center, 2009). For foundations that are environmentally focused and socially focused on rural communities these PRI funds could potentially be deployed to REDD+. Beyond PRI and MRI, there are also funds that are being deployed by corporations for corporate social responsibility (CSR) purposes. Corporations are making commitments to be carbon neutral through purchases of forests or offering consumers options to offset their emissions from use of products and services, called CSR. Of the purchases reported last year for forest carbon offsets, 19.5% came from pure voluntary buyers using emission reductions to offset their emissions (Ecosystems Marketplace, 2011). REDD+ activities can attract funding from these investors given the positive social and environmental impacts associated with the activities.

4.2 MEANS OF RISK REDUCTION

Reducing many types of risk, including country and political risk, operational risk, counterparty risk, and market risk can make a meaningful impact on stimulating private investment. Unlike other emission reduction project types, REDD+ does not include technology risk per se but there are others such as natural catastrophe. The following are some relevant risk-reducing activities for REDD+ that can be used to lower investors risk and thus increase private capital flows to the sector.

- **Loan Guarantees:** As described above, the riskier a loan, the higher the expected return by the lender. Third party loan guarantees provide full or partial guarantees to the underlying lenders to lower their risk. This results in loans provided to projects that otherwise might not have qualified and its can lower interest payments for project proponents due to the lenders reduced risk.
- **Insurance:**
 - **Political Risk:** Many geographic locations where REDD+ projects take place include political and country risks too great for many investors. In addition, the nascent state of carbon related laws and processes in most REDD+ host countries adds new political risks because of the uncertainty of how these laws will develop and because government regimes will change over the long-term life of most REDD+ investments. One effective way to reduce political risk for project developers and investors is to purchase insurance that covers expropriation and breach of contract, or even political violence insurance for places with potential unrest from war or civil conflict and where forests or agricultural lands storing carbon could be destroyed.
 - **Catastrophic Risk:** Natural hazards include earthquakes, windstorms, hurricanes, flooding, drought, and wildfires. Any REDD+ project might be subject to a subset of these risks, which could be reduced or eliminated by the project or investor by using commercial insurance.
- **Donor Funding:** This is also listed as a source of funds above, but it is important to note that donor funds are also as very important mechanism for lowering investors risk for REDD+.
 - **Start-Up Funding:** Donor funding for the initial phases of REDD+ project development lowers the cost of project implementation and therefore increases the amount of return to project stakeholders. Furthermore, donor funding often requires broader stakeholder, community, and government involvement increasing transparency, participation, and the likelihood of project success. Finally, donor funding also requires specific reporting on project outcomes, increasing project accountability. These factors serve to lower the operational risk of a project. Finding ways to distribute donor funds that are directly tied to a portfolio of REDD+ activities that have direct links to private capital, could be a valuable way to bring scale to the market and ensure social and environmental benefits are delivered.

- **Pay-for-Performance Mechanism:** The risk to the providers of primary capital is high given the uncertain demand and price of REDD+ emission reductions in the future. As these markets grow and mature this will change, but in the interim if government programs could pay for verified REDD+ emission reductions at a basic floor price or provide a backstop for investors, this could incentivize more investment in the sector to support critical early action.
- **ERPA:** ERPAs, while also a source of capital through payments that are made for verified tons, can also provide risk mitigation and help to attract project financing as they support the payback of debt and equity. Depending on the agreed upon terms and conditions, they reduce market price risk by providing a pre-determined minimum emission reduction price. On the other hand, ERPAs could contain upside sharing provisions so that the project can participate in higher prices at the time of delivery in case the market for emission reduction credits goes up. Such upside sharing provisions are a good way to keep the project incentivized to perform, as buyers share revenue with project proponents and both receive greater financial benefits.

5 USG PRIORITIES AND ACTIVITIES IN REDD+ AND FOREST CARBON

This report reviews numerous USG agencies, boards, commissions, corporations, and programs (Appendix III) and conducted limited informal and formal interviews (Appendix II). The scope of the report is limited to desk review and does not include specific interviews with USG agencies. Based on this review, the following agencies have the most relevant and related priorities to REDD+ and forest carbon markets. Section 5 provides a summary of each agency's activities related to REDD+ and forest carbon as background for the recommendations in Section 6.

5.1 USG REDD+ STRATEGY OVERVIEW

In December 2010, the USG announced a REDD+ Strategy as an important part of President Obama's new Global Development Policy and the United States' commitment to "fast start" financing in the Copenhagen Accord, where it could dedicate US\$ 1 billion over the FY2010-2012 timeframe to REDD+ activities that help countries to slow, halt, and eventually reverse deforestation. These activities are funded and supported by multiple agencies, in differing ways, but will follow the overall strategic objectives of the USG strategy as summarized below (USAID, 2010).

5.1.1 Objective 1: REDD+ Architecture

USG supports the creation of international forest carbon finance and market architecture to help countries deliver REDD+ outcomes through public and private sector activities. Specifically, USG supports the following types of activities under this objective:

- Participate in selected multilateral REDD+ funds, and other international REDD+ related processes to coordinate global efforts and ensure coherence with USG policies and approaches;
- Assessment of modalities for measuring REDD+ GHG mitigation, dissemination of best practices, sharing of data, and access to tools for decision making, including through applied research, training, publications, and regional and global platforms; and
- Strategic coordination with other donors and multilateral efforts ensuring that REDD+ finance and carbon market efforts are transparent, mitigate financial risk, and enhance carbon and investment returns.

5.1.2 Objective 2: REDD+ Readiness

USG helps countries prepare at a national level for REDD+, pay-for-performance financing, and future international and domestic carbon markets. Specifically, USG supports the following types of activities under this objective:

- Support for REDD+ readiness activities at the local government level. This includes assistance with sub-national REDD+ strategies, benefit sharing and safeguard systems, emissions inventories, and land use planning and monitoring;
- Support for development of robust national greenhouse gas inventories;
- Promotion of national standards and systems for effective environmental and social safeguards for REDD+ activities;

- Provision of technical assistance on national legal, regulatory, and financial structures necessary for enabling private sector finance for low emissions development and participation in any future carbon market; for example, to manage benefit-sharing from results-based payments;
- Implementation of readiness elements within a country's national REDD+ strategy, if a strategy exists. This might include strengthening the aspects of national forest governance, national technical management capacity, and national land and tree tenure policies that are directly necessary to achieve emissions reductions and sequestration at scale; and
- Support for design and execution of national level policy reforms that change economic incentives toward reduced net emissions.

5.1.3 Objective 3: REDD+ Demonstrations of Cost Effective and Sustainable Emissions Reductions

USG activities seek to decrease net forest emissions at significant geographic scale with explicit linkages to ongoing national REDD+ readiness efforts. Specifically, USG supports the following types of activities under this objective:

- Support for large-scale pilot activities that promote sustainable economic growth, transparently monitor and report credible emissions reductions or sequestration, and catalyze private-sector investment;
- Support for emissions reduction demonstrations at smaller scales; and
- Pay-for-performance pilot projects and funds.

5.2 DEPARTMENT OF STATE

The Department of State's strategic objectives are to develop fast start financing and bilateral climate change and energy partnerships. US fast start finance falls under three pillars: adaptation, clean energy, and sustainable landscapes, the last of which focuses largely on helping countries to slow, halt, and reverse deforestation. The FY 2012 appropriations request for the Global Climate Change Initiative (GCCCI) includes a total US\$ 651 million for Department of State and USAID (overseen by Department of State). Of this GCCCI funding, US\$ 215 million is for adaptation, US\$ 195 million is for clean energy, and US\$ 241 million is for sustainable landscapes or REDD+ related activities. Of the sustainable landscapes funds, US\$ 28 million is requested from the Department of State for the Forest Carbon Partnership Facility (FCPF) to help measure and design REDD+ projects and leverage other donors' funding for these initiatives, and US\$ 213 million is requested for USAID to implement the US Government REDD+ Strategy (Congressional Budget Justification, Fiscal Year 2012).

5.3 UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT

USAID is leading the USG's implementation of the GCCCI with funding allocated through USAID's sustainable landscapes, adaptation and clean energy pillars. USAID's sustainable landscapes funding is dedicated to "help save tropical forests from destruction through targeted and strategic assistance". This targeted funding is applied to both technical programs contributing to the enhancement of the developing international framework for REDD+ and to implementation of REDD+ projects and programs. USAID is focusing these technical activities on supporting "early movers able to demonstrate credible results based payments for carbon storage under REDD+ and commitments to developing monitoring, reporting, and verification systems, and enabling policy structures such as land and resource tenure" within "globally important forest landscapes" (USAID, 2012).

USAID's Climate Change and Development Strategy's Strategic Objective 1, Intermediate Result 1.2, includes "mobilizing private finance" to "invest in land use practices that stop, slow, and reverse emissions from deforestation and degradation of forests and other landscapes". This will require linking national policies with

sub-national planning and REDD+ projects under a regime of adequate MRV. Furthermore, USAID is supporting partner countries with some of the tools to ensure that the financial and environmental benefits of REDD+ efforts are distributed efficiently and equitably (USAID, 2012).

USAID's Climate Change and Development Strategy's Strategic Objective 3, Intermediate Result 3.1 is to "integrate climate change across USAID's development portfolio" and Intermediate Result 3.2 is to "elevate the role of development in climate change dialogues and policies" resulting in that the "development agenda is incorporated into all relevant climate change forums". USAID wants both of its intermediate results to focus on reaching out to public and private sector REDD+ financial stakeholders to leverage multilateral and capital markets financing for REDD+ readiness while furthering integrating the intersection between climate change and development through public-private sector engagement (USAID, 2012).

USAID's Climate Change and Development Strategy also implements aspects of the US Government Strategy for REDD+, released in October 2010. This USG "whole of government" program enables USG assistance globally to meet climate change financing priorities and criteria within the frameworks of mutually beneficial long-standing bilateral relationships by developing activities with host nations that conserve forests, promote sustainable land use, and address deforestation through activities including the following:

- Supporting policies that improve forest governance and reduce deforestation such as developing large scale forest-based climate change mitigation through its support for developing country-led low emission development strategies (LEDS);
- Reducing greenhouse gas emissions from deforestation and increase carbon stored in forests through implementing projects and programs that promote the production of and use of fuel-efficient cook stoves in Africa; and
- Accelerating the deployment of science and technology to monitor forests and land use changes through programs such as SilvaCarbon, a program that enhances capacity worldwide for monitoring and managing forest and terrestrial carbon.

5.4 OVERSEAS PRIVATE INVESTMENT CORPORATION

The Overseas Private Investment Corporation (OPIC) is the USG's development finance institution. It mobilizes private capital to help solve critical development challenges and in doing so advances US foreign policy. OPIC has a strong track record of supporting renewable energy resources and clean technology projects in emerging markets and, has made significant progress in advancing the US government's pledge to assist developing nations in combating climate change. OPIC is a USG instrument to help deliver on the commitments made at UN Climate Change Conferences (OPIC Agency Review, 2011). OPIC's strategic climate change objectives are to promote renewable resources and climate change mitigation efforts through its three lines of business: investment funds, insurance, and financing (loans).

FY2011 was by every measurement and by a considerable margin OPIC's most successful year in the renewable resources sector. OPIC financing supported economic growth in emerging markets, by leveraging more than US\$ 2 billion in additional financing for renewable resources projects.

OPIC's activities to reach this objective include these highlights from FY2011, including pioneering REDD+ related investments:

- OPIC Board approval for a US\$ 40 million investment in a community based REDD+ and forest carbon private equity fund;
- The first political risk insurance contract for a REDD+ project that will protect 64,318 hectares of forest in Cambodia and sequester approximately 8.7 million mtCO₂e; and
- Expansion of a sustainable biomass project in Liberia energy production.

5.5 DEPARTMENT OF TREASURY

The Department of Treasury's is a lead agency in multilateral development banks like the World Bank, African Development Bank and in regional agencies like the Inter-American Development Bank and the Global Environment Facility (GEF). The Department of Treasury's funding requests that can be relevant to REDD+ and forest management for FY 2012 are the following programs (US Department of Treasury, International Programs Justification for Appropriations, FY 2012):

- Tropical Forest Conservation Act (TFCA) request of US\$ 15 million for sovereign debt restructuring, while generating funds to support forest conservation;
- Requests include US\$ 190 million for the Strategic Climate Fund (SCF). The SCF is the other facility of the multilateral Climate Investment Funds (CIF) and it supports three targeted programs to pilot new approaches and scaled-up activities to address climate change challenges in developing countries. These are the Pilot Program for Climate Resilience (PPCR), the Forest Investment Program (FIP), and the Program for Scaling-Up Renewable Energy in Low Income Countries (SREP); and
- Requests for the GEF include US\$ 144 million to provide incremental funding for projects that provide global environmental benefits, such as reducing greenhouse gas pollution and conserving biodiversity.

5.6 MILLENNIUM CHALLENGE CORPORATION

The Millennium Challenge Corporation's (MCC) has among its stated FY 2012 goals to assist in developing REDD+ globally and climate smart agriculture (MCC Congressional Budget Justification, FY 2012). These areas also support MCC's main focus on anticorruption, land rights and access, water supply and sanitation, finance and enterprise development, and agriculture and irrigation. To implement these types of activities, MCC forms partnerships through compacts and thresholds with developing nations that are committed to good governance and economic freedom, through a competitive selection process that results in host-country led solutions and implementation. One of MCC's 2012 goals is to complement Indonesia's participation in REDD+.

5.7 OTHER USG REDD+ RELATED ACTIVITIES

The agencies listed in Table 2 have priorities that are also related to climate change or aspects of REDD+ and forest carbon markets, but have not specifically identified REDD+ as a focus area. Section 6 provides recommendations that build upon what is already being done (Sections 5.1-5.6) or is related (Section 5.7) to REDD+ and forest carbon markets.

Table 2: Summary of Other USG REDD+ Related Activities

USG Agency	REDD+ Related Activity	USG Agency	REDD+ Related Activity
Department of Defense	Sustainable landscapes to reduce security threats from migration due to flooding caused by deforestation and degradation.	Department of Interior	Carbon sequestration and sustainable management of land, water, and wildlife and in the US.
Department of Labor	Climate change awareness raising, mitigation, and adaptation related to green job training.	Securities and Exchange Commission	Threats, legislation applications, and physical risks from climate change to public companies, including emissions from agriculture, forestry and other land uses.

USG Agency	REDD+ Related Activity	USG Agency	REDD+ Related Activity
Environmental Protection Agency (EPA)	Regulations on climate change issues including GHG emissions under the Clean Air Act.	Department of Agriculture	Office of Chief Economist's Climate Change Program Office (CCPO) can provide support for standardizing and harmonizing REDD+ global investments, food security, and emissions issues related to climate change and forest carbon. The US Forest Service's International Programs can provide leadership on developing investment-grade sustainable forest management REDD+ projects internationally.
Commodity Futures Trading Commission	On January 18, 2011, the CFTC completed its report on the oversight of existing and prospective carbon markets in the United States, fulfilling a requirement established in Section 750 of the Dodd-Frank Wall Street Reform and Consumer Protection Act. This report highlighted the critical role of oversight in a properly functioning carbon market, as well as confirmed that the CFTC currently has the proper authority necessary to police the market.	Export-Import Bank	Major GHG impacts of investments they support including measuring land use carbon impacts; ensuring investments do not promote degradation and conversion of forests.
US Fish and Wildlife Service	USFWS enforces the Lacey Act, which controls/limits the trading of illegally-sourced animals and plants, including timber. The agency's Division of International Conservation also implements and administers conservation projects and funds, such as the Great Ape Conservation Fund in Central Africa.	United States Trade and Development Agency (USTDA)	USTDA provides grants directly to overseas sponsors who, in turn, select US companies to perform Agency-funded project activities. An overseas sponsor is a public or private entity with the authority and ability to implement a project. Covered sectors include the environment covering financing for feasibility studies, pilot projects, and technical assistance.

6 RECOMMENDATIONS TO USG TO PROMOTE REDD+ PRIVATE FINANCE AND MARKETS

The financing of REDD+ activities, at the scale necessary to help avert climate change, faces the same challenges as traditional infrastructure investments in developing countries. But it also faces unique challenges including the fact that the investment returns are often completely dependent on the end market price for emission reductions and that successful implementation requires moving traditional development activities into a broader commercial framework. Developing market-based policies is critical to attracting private capital and creating cost-effective environmental protection through the recognition of the economic value of REDD+ (Groot et al., 2010).

A driving factor on the recent increased focus on market-based approaches is that public funding is insufficient to tackle the problem at hand and thus private sector funding must be catalyzed. Halving deforestation by 2030 will require funding of US \$17 – US\$ 28 billion per year (Eliasch, 2008); yet funding levels through public finance agreements currently amount to only US\$ 4.5 billion for 2010-12. Public sources do not have the capacity to close this significant gap. Closing this gap with private capital will require a 200 fold increase in current annual global forest carbon upfront investment levels, which in 2010, were US\$ 76 million (Peters-Stanley et al., 2011).

Forest carbon private investment will only flow at the speed, scale and pace necessary if supported by clear, credible, and long-term policy frameworks that shift the risk-reward balance in favor of forest carbon investments. The UNFCCC forecasts that through investments in REDD+ offset activities there exists the potential to reduce projected global emissions by 39% by 2030 (UNFCCC, 2008). The challenge is to efficiently use existing, though limited, public funding mechanisms to leverage private funds for REDD+ financing. Private sector investors need governments and international institutions to make catalytic public sector investments within standardized frameworks in order to increase global forest carbon private investment.

The recommendations for the USG to promote finance and markets for REDD+ are summarized in Table 3 with further explanation in Sections 6.1 through 6.16. The recommendations are organized according the REDD+ finance and markets enabling framework presented in Table 1 and are designed to promote **REDD+ Offset Supply** and **REDD+ Offset Demand**. These recommendations are further divided into key enabling requirements (quadrants) which on the supply side are **Institutional Platforms** and **REDD+ Mitigation Activities** and on the demand side are **Primary Capital** and **Secondary Demand**.

Table 3: REDD+ Finance and Markets Enabling Framework - Challenges and Recommendations

(Note: Secondary recommendations as listed in Section 6.17 are not included in this table.)

REDD+ OFFSET SUPPLY		REDD+ OFFSET DEMAND	
INSITUATIONAL FRAMEWORKS		PRIMARY CAPITAL	
Challenges	Recommendations/ Instruments	Challenges	Recommendations/ Instruments
<ul style="list-style-type: none"> • Absence of clear land titles • Absence of legal carbon titles • Limited knowledge of how REDD+ design options impact a country's ability to engage private investors and participate in future compliance markets • Limited government capacity/desire to engage in private sector transactions in REDD+ • No clear processes and procedures for gaining government approvals for REDD+ mitigation activities • No or fragmented systems or registry to track activities and emission reductions • No jurisdictional REL and MRV standards that harmonize and integrate project-based and national accounting • Insufficient financial accounting standards 	<p>6.1 USG: REDD+ Coordination & Focus</p> <p>6.2 USAID EGAT: Improved Processes for Securing Land & Carbon Tenure</p> <p>6.3 USAID EGAT: Harmonizing Reference Emissions Levels, MRV & Financial Mechanisms</p> <p>6.4 USAID: Development Innovation Ventures</p> <p>6.10 US Treasury: Tropical Forest Conservation Act</p> <p>6.11 US Treasury: Office of Technical Assistance</p>	<ul style="list-style-type: none"> • Nascent secondary demand (see below) <ul style="list-style-type: none"> ○ Limited liquidity ○ No forward price curve ○ Limited exit opportunities • Often high opportunity costs of competing land use • Country risk • Counterparty risk (lack of credit-worthy project entities) • Deal sizes often small (< \$2.0 million) • Inconsistent MRV between project and jurisdictional systems creating risk • Difficulty attracting capital commitments to private equity-like pooled vehicles • Limited availability of debt at project/program level • No Forest Carbon Price Index - allowing for transparency and profit sharing in emerging markets 	<p>6.1 USG: REDD+ Coordination & Focus</p> <p>6.3 USAID EGAT: Harmonizing Reference Emissions Levels, MRV & Financial Mechanisms</p> <p>6.5 USAID: Global Development Alliance</p> <p>6.6 USAID: Development Credit Authority</p> <p>6.7 OPIC: Fund Investments</p> <p>6.8 OPIC: Political Risk Insurance</p> <p>6.9 OPIC: Loan Structures</p> <p>6.11 US Treasury: Office of Technical Assistance</p> <p>6.14 Millennium Challenge Corporation</p> <p>6.16 USG REDD+ Small-Grant Funding Facilities</p>
REDD+ MITIGATION ACTIVITIES		SECONDARY DEMAND	
Challenges	Recommendations/ Instruments	Challenges	Recommendations/ Instruments
<ul style="list-style-type: none"> • Diffused REDD+ funding, without M&E tied to emission reductions • Low level of REDD+ carbon readiness • Insufficient REL, MRV that harmonizes project and jurisdictional approaches • Lack of capacity to create investment-grade emission reductions projects and programs • Lack of common implementation systems and tracking platforms to support multiple project partners • Limited capacity to engage in negotiation of fair investment terms with private investors 	<p>6.1 USG: REDD+ Coordination & Focus</p> <p>6.3 USAID EGAT: Harmonizing Reference Emissions Levels, MRV & Financial Mechanisms</p> <p>6.4 USAID: Development Innovation Ventures</p> <p>6.5 USAID: Global Development Alliance</p> <p>6.6 USAID: Development Credit Authority</p> <p>6.10 US Treasury: Tropical Forest Conservation Act</p> <p>6.11 US Treasury: Office of Technical Assistance</p>	<ul style="list-style-type: none"> • Low level of CSR buying activity • Limited regulatory compliance systems that accept REDD+ offsets • No compliance price signal • Limited assurance of development of secondary market • No publically funded, credit purchase facility, open architecture pay-for-performance based public funds • Lack of international UNFCCC framework • Limited bilateral demand • Low or no domestic demand 	<p>6.1 USG: REDD+ Coordination & Focus</p> <p>6.8 OPIC: Political Risk Insurance</p> <p>6.9 OPIC: Loan Structures</p> <p>6.12 Environmental Protection Agency</p> <p>6.13 Federal Trade Commission: Rules on Green Marketing Claims</p> <p>6.15 USG REDD+ Carbon Purchase Facilities</p>

6.1 USG: REDD+ COORDINATION & FOCUS

The USG has a REDD+ Strategy and a number of agencies are undertaking valuable REDD+ finance-related activities. Yet coordination amongst all USG agencies, for the purpose of leveraging capital markets to fund REDD+ “pay-for-performance” activities, resulting in achieving REDD+ goals can be improved. As described in Section 5, several USG agencies including USAID, OPIC, Department of State, Department of Treasury, and MCC have approaches to, or projects dealing with, REDD+ activities. However, a formal coordination body that is tasked with coordination and leverage of USG REDD+ funds and developing activities that catalyzing private sector finance activities for REDD+ does not exist. As a result, opportunities to leverage public sector financing through harmonized activities are missed. Furthermore, REDD+ efforts are often bundled as components of larger projects, diluting their focus and involving partners less equipped and sophisticated in implementing REDD+ activities. This creates a repeated invention of the wheel, cost inefficiencies, and divergent approaches. Overall, this approach is costly to the USG and does not advance REDD+ as a global tool with the full range of USG resources to produce emission reductions, improve livelihoods, and enhance biodiversity.

Recommendations

There is a need to develop an inter-agency coordination body to implement executable REDD+ investment-grade financial architecture and funding strategies in the near-term in line with an overarching USG sustainable land use strategy. This includes communicating REDD+ financing opportunities with relevant USG agencies in order to: 1) inform the agencies of what the USG is currently implementing and planning, 2) inform the agencies about global REDD+ efforts, 3) lead a discussion on needs and opportunities for REDD+ and forest carbon markets, and 4) offer an environment to coordinate and implement REDD+ and private finance-catalyzing activities. **Table 4** summarizes how each recommendation addresses the challenges identified in the REDD+ finance and markets enabling framework in Table 1.

Pros and Cons

While increasing whole-of-government coordination and focus could bring greater leverage and integration of USG REDD+ related activities and maximize the impact of USG spending, this may result in encumbering activities through top-down policies. Table 4 through Table 19, included under each of the recommendations in Sections 6.1 to 6.16, explain placement of the recommendation within the REDD+ finance and markets enabling framework in Table 3 above and how each recommendation can build a stronger environment from REDD+ finance and markets. The tables provide rationale for each recommendation across the following criteria:

- **Promotes:** This indicates if the recommendation falls on the **REDD+ Offset Supply** or **REDD+ Offset Demand** side of the supply / demand curve.
- **Builds:** This refers to the specific quadrant to which the recommendation belongs.
- **Impacts:** This category is unique to each recommendation and simply provides further explanation for its placement on the framework demonstrated in Table 3.
- **Recommendations:** This refers to the types of recommendations possible.

Table 4: Outcomes from USG: REDD+ Coordination & Focus

Promotes	REDD+ Offset Supply and REDD+ Offset Demand
Builds	Institutional Frameworks, REDD+ Mitigation Activities, Primary Capital, Secondary Demand
Impacts	Rationalizes, leverages and integrates USG REDD+ related activities to maximize impact of USG spending
Recommendations / Instruments	Promote cross agency instruments and programs

6.2 USAID EGAT: IMPROVED PROCESSES FOR SECURING LAND & CARBON TENURE

Within its Economic Growth and Trade (EGAT) activities, USAID aims to help developing countries achieve rapid, sustained and broad-based economic growth needed to ensure peoples' well-being over time. USAID's Economic Growth Strategy focuses efforts in this area through three program approaches: (1) develop well-functioning markets, (2) enhance access to productive activities, and (3) strengthen the international framework of policies, institutions and public goods. These activities have been pursued in the fields of business-enabling environments, development credit, energy, enterprise development, economic policy and governance, financial markets, information technology, microenterprise development, social safety nets, technology transfer, trade and investment, and urban programs.

In regions where the main causes of deforestation are driven by a lack of economic alternatives or a general low level of commercial activities, assisting economic growth will generally lower pressure on forests. Under these circumstances, EGAT activities are highly relevant to REDD+ in general. A more specific example of EGAT relevance to forest carbon is how EGAT helps forested countries reduce emissions from deforestation and degradation of forests through investment in property rights, policies, and financial arrangements that foster stewardship activities and other efforts around land titling, which creates certainty for farmers, and at the same time incentivizes and motivates people to better care for their land.

Recommendations

Ensuring that land tenure is clear is one of the first steps in the process of developing a strong REDD+ project. Usufruct (the legal right to use and derive profit or benefit from property that either belongs to another person or which is held in common ownership) and statutory examples of land tenure systems that have been applied for REDD+ projects include: community forestry laws in Cambodia and Tanzania, community-government co-management in Malawi and ecosystem restoration licenses in Indonesia. In addition to clear and secure rights to land, there may be an additional need to clarify how those land rights are related to the right to buy, sell and benefit from carbon produced on the land and / or as a purchase agreement or services contract. Thus, projects looking to develop carbon and use proceeds to support forest management and livelihoods need to determine their own methods to securing rights to carbon. This means that, depending on the land and natural resource tenure of the project/country, all projects must secure land tenure and then gain the government approvals that support their ability to develop carbon and clarify carbon ownership. In summary, this means that strong land / tree /carbon tenure is not a prerequisite required for a REDD+ project, rather part of a REDD+ project development process and often the first part of implementing a REDD+ project.

Over time, laws will be formed that govern how these approvals are granted, but in the interim, support is needed immediately to help countries define and implement clear processes for achieving these government approvals. Today each project develops its own carbon rights agreements and must rely on the relationships with government to secure the agreements. This creates a number of risks including: promoting corruption as projects find ways to secure the required approvals, inconsistent carbon agreements that may make future management by the government difficult, inconsistent and unfair approaches to benefits-sharing and rights recognition, long delays in gaining approvals that lead to project failure. EGAT could support programs designed to help governments build approval processes and standardized approaches to carbon development agreements, based on the specific land tenure contexts in each country. The short-term focus could be on definition and implementation of administrative processes and the longer term support could be around promoting carbon related laws within REDD+ host countries (Table 5).

Pros and Cons

While funding could lower investor risk, reduce costs and ensure right holders are protected, land tenure clarity requires local legal, governmental and cultural support and knowledge.

Table 5: Outcomes from USAID EGAT: Improved Processes for Securing Land and Carbon Tenure

Promotes	REDD+ Offset Supply
Builds	Institutional Frameworks
Impacts	Lowers investor risk, reduces costs and ensures right holders protection
Recommendations / Instruments	Apply donor and traditional development assistance

6.3 USAID EGAT: HARMONIZING REFERENCE EMISSIONS LEVELS, MRV & FINANCIAL MECHANISMS

USAID can help to scale up existing REDD+ reference emission levels (REL) and MRV infrastructure to promote large-scale early action that leverages locally focused REDD+ projects. But a key component of providing security to projects engaged in early action is to ensure that there is continuity as jurisdictions move to sub-national and national accounting. Without investors having the ability to assess how the tons of CO₂e from these projects might be impacted as they move into subnational and national accounting, they are unlikely to make any sizable investments. EGAT can assist key countries/subnational programs, which are advanced in their development of REL and MRV and that have a number of pilot projects, in scaling up and harmonizing projects into the national level accounting and setup of financial mechanisms that support the on-going direct crediting of emission reductions to project participations. Without ensuring that harmonized top down and bottom up nested REDD+ system are implemented, projects will be left stranded as national systems come on line. Valuable work has been started under the Verified Carbon Standard Jurisdictional and Nested REDD Initiative (JNRI) that provides guidance for REDD+ host countries in designing nested accounting and financial mechanisms.

Recommendations

To do this, EGAT and the broader USAID could provide technical assistance and capacity development to implement carbon accounting, financial mechanisms and crediting schemes that work together with project-based accounting happening today, but are integrated into the national and sub-national systems that are being built in REDD+ host countries. As jurisdictions demonstrate that this is possible, early private capital will flow to these countries. The focus could be on finding target countries/sub-national regions that can engage in the technical implementation work needed to promote “learning by doing” (Table 6). These could meet the following criteria:

- Interested in promoting private capital for REDD+;
- Have already begun jurisdictional work on their REL and MRV, and understand and embrace the concept of ‘nesting’;
- Have pilot projects being developed under today’s standards like the Verified Carbon Standard (VCS), American Carbon Registry (ACR) and Climate, Community, and Biodiversity Standard (CCB); and
- Want to engage government and projects in creating a pathway between project and jurisdictional systems.

Pros and Cons

While ensuring that national and subnational REDD+ programs promote early action and have a pathway from project to jurisdictional systems, and thus reducing investor’s risk in making early investments in REDD+, USAID would need to choose specific jurisdictional accounting standards to support.

Table 6: Outcomes from USAID EGAT: Harmonizing REL, MRV & Financial Mechanisms

Promotes	REDD+ Offset Supply and REDD+ Offset Demand
Builds	Institutional Frameworks, REDD+ Mitigation Activities, Primary Capital
Impacts	Ensures that national and subnational REDD+ programs promote early action and have a pathway from project to jurisdictional systems, and thus reduces investor’s risk in making early investments in REDD+
Recommendations / Instruments	Apply donor and technical assistance and capacity development

6.4 USAID: DEVELOPMENT INNOVATION VENTURES

One of the means to institutionalize innovation at USAID is through the venture capital-style fund called Development Innovation Venture (DIV). DIV is executed through USAID’s Office of Innovation and Development Alliances, which also manages the Global Development Alliance (GDA) program. Through DIV, USAID seeks to identify and rigorously test promising projects with the potential to significantly (rather than incrementally) improve development outcomes, and help replicate and scale projects that are proven successful. DIV expects that its most successful investments will have an accelerated growth path to reach tens of millions of beneficiaries worldwide within 10 years. USAID seeks innovations, including within its own business processes, in identifying and supporting effective development solutions, or in applying technology to development challenges that produce development outcomes more effectively and cost efficiently and that reach more beneficiaries. Though no REDD+-relevant projects have yet been funded, DIV has worked with venture capitalists to create a water sanitation project in Kenya that is improving the lives of millions and could be replicated throughout East Africa. FY 2012 appropriations for DIV are US\$ 32 million.

Recommendations

DIV is a new program and probably not well-known in REDD+ circles (Table 7). Its existence could be promoted at specific REDD+ conferences and meetings and invite applications from various players in the REDD+ field seeking modest investments to fill key technology gaps including related to: geographic information systems (GIS), measurement and inventory systems, REL, MRV, statistical design of sampling, new methodology development, national registries, standardized financial auditing, and many other technical areas within REDD+. In addition, the DIV reviewers could be sensitized to the types of innovations that can be used to promote community-based REDD+ activities that provide scalable livelihood improvements.

Pros and Cons

While providing support for a broad range of technology, process and financial solutions that are needed to scale REDD+ including, such as participatory measurement and monitoring, design of micro-level REDD+ benefits management, and forest carbon index, DIV grants would need to clear funding criteria when applied to this sector.

Table 7: Outcomes from USAID: Development Innovations Ventures

Promotes	REDD+ Offset Supply
Builds	Institutional Frameworks, REDD+ Mitigation Activities
Impacts	Provides support for a broad range of technology, process and financial solutions that are needed to scale REDD+ including, participatory measurement and monitoring, design of micro-level REDD+ benefits management, and forest carbon index
Recommendations / Instruments	Apply donor and development assistance to test and scale and have cost effective leveraged outcomes for REDD+

6.5 USAID: GLOBAL DEVELOPMENT ALLIANCE

USAID launched the Global Development Alliance (GDA) in 2001 to form strategic alliances between the public and private sector in order to achieve USG international development objectives. These projects attract new, non-traditional partners who jointly design and develop projects with the USG, and who provide a greater ratio of private funds to USG funds. The model is intended to further the objectives of USAID Missions and benefit the interests of the private sector partners. REDD+-relevant alliances could be expanded beyond current activities because GDA listed in its most recent Annual Program Statement global climate change, in the form of adaptation and mitigation, as one of its six agency priorities. This mechanism can be used to co-fund emission reductions projects and jurisdictional programs, which produce verified emission reductions. It could wrap together the technical and development assistance needed to create investment-grade emission reductions, with the match of private capital providing upfront equity investments and commitments of future purchases.

Several snags in the GDA model make it difficult to successfully access funding. First, GDA does not have its own funding and thus requires that USAID Bureaus directly fund opportunities aligned with their priorities. Second, the GDA process of gauging interest from Missions is often not understood by Mission staff, and therefore inquiries are overlooked as unsolicited ideas. Most importantly, USAID Missions' budgets are designed to respond to planned solicitations and few are able to redirect designated funds or access unrestricted funds to apply to a new public-private concept. Even when prospective projects can offer considerably higher than a 1:1 private funding match, most Missions are unable to capitalize on these opportunities. In addition, it is unclear how the commitment to purchase future emissions reductions could be treated under the cash match criteria. This leaves the funding process open to interpretation for each proposal which could lead to inconsistent treatment under similar proposals. Even if the decentralized structure of gaining USAID Mission support were more efficient, the opportunity to attract meaningful private capital under this mechanism could be greatly increased if programs across regions or globally could be effectively supported. This is a way to provide investors more diversification to the investments they could make under the GDA facility.

Recommendations

The GDA can pilot REDD+ investment readiness capacity development in order to fully operationalized a pay-for-performance and market-based system that can catalyze private investment for emission reductions from REDD+ and other land use carbon activities, including conservation and sustainable management of forests and forest carbon stocks. Depending on how emission reductions purchase commitments are counted from private sector investors, this funding mechanism could create sizable leverage possible 10:1. This could involve specific USAID Missions and / or several geographically-dispersed Missions and selected states/provinces in each country in order to reduce risks, as compared to investing in one country, and to attract private sector investment. The value of such a pilot could be that it: 1) develops all systems necessary for REDD+ and other land use activities that include community benefits (possibly within jurisdictional nested REDD programs); 2) catalyzes long-term private investments in emission reductions; and 3) leverages significant public sector expertise to setup the systems and transfer on-going management to local governments and market participants.

This is a powerful way in which public and private capital can be jointly deployed to help more projects to reach a stage of development appropriate for private sector capital. Investment readiness (Table 8) will attract private capital to create sustainable income streams for communities and improve natural-resource based livelihoods (through transition from unsustainable extraction-based to conservation-based), and to protect biodiversity.

Pros and Cons

While providing key start-up funding to activities including technologies to catalyze qualifying REDD+ related emission reductions activities, increase community participatory measurement, lower investor risk, and

increase internal rate of return (IRR), GDA funding would require significant private sector leveraging of funds.

Table 8: Outcomes from USAID: Global Development Alliance

Promotes	REDD+ Offset Supply and REDD+ Offset Demand
Builds	REDD+ Mitigation Activities, Primary Capital
Impacts	Provides key start-up funding to qualifying REDD+ related emission reduction activities and lowers investor risk and increases the internal rate of return (IRR) by cost sharing the process of delivering emission reductions
Recommendations / Instruments	Fund donor and equity capital, and ERPAs

6.6 USAID: DEVELOPMENT CREDIT AUTHORITY

To encourage financial institutions to lend to creditworthy but underserved borrowers, USAID missions use the Development Credit Authority (DCA) to stimulate lending through the use of partial credit guarantees. These risk-sharing guarantees, which generally cover up to 50% of loss on loans made by financial institutions and investors, use private sector wealth to stimulate broad-based development that is truly sustainable. These guarantees have been used in a variety of ways (i.e.: to support municipal lending to increase access to clean water and clean energy; to enable health clinics to invest in medical equipment; and to enable businesses and families to recover after natural or man-made disasters). Other supported sectors include education, finance, infrastructure, and agriculture.

DCA is used in established lines of business and in sectors where there is known demand but where access to loans is difficult. An application of DCA to forest carbon has not yet been established, although DCA has provided guarantees to reforestation in Africa, and to forest-based industries throughout the world. To date, DCA has an excellent multiplier: each US\$ 1 spent via the DCA leverages, on average, US\$ 28 in private funds. Since inception in late 1999, more than 267 partial credit guarantees have facilitated over US\$ 2.3 billion of private capital debt financing in more than 64 countries.

One of the challenges for use of DCA to finance forest carbon projects is that often the size of the required loans is too small to make it cost effective to submit proposals. This could be overcome by pooling multiple projects into a vehicle that provided debt. Even if this challenge could be overcome, it is still very difficult to identify local and regional banks that could provide the direct debt financing, as they either have little understanding of forest carbon projects or are unwilling to take the risk when the project's ability to repay the loan is dependent on carbon sales.

Recommendations

DCA could be a valuable mechanism when REDD+ projects and programs have reached a stage of commercial readiness but need return enhancement, through the use of medium to long-term loans, such that equity investors can meet IRR targets. DCA could have a greater impact on catalyzing private finance: if it could work to develop a pool of lenders that are educated on the economics of REDD+; if it could offer opportunities to provide loans; or if it could make the facility applicable to REDD+ projects and programs and equity investors.

In addition to using DCA to finance emission reductions projects and programs, the DCA facility could be valuable in promoting businesses that service the REDD+ sector. As the sector grows and more local businesses are established to support technical consulting, validation/verification, brokerage, and other services, loans could be a valuable way to provide capital to fund the growth of these business opportunities. DCA program officers could become familiar with the opportunities in the REDD+ sector, develop a pool

of regional and global lenders who will lend to REDD+ projects and programs and develop an outreach program to market the lending opportunities to REDD+ investor (Table 9).

Pros and Cons

While catalyzing more direct funding to emission reduction projects and programs by lowering lender’s risk and increasing equity investors returns by providing a leveraged capital structure for project finance, USG would need to assume only clearly known, funded, and understood risks taken by the private sector.

Table 9: Outcomes from USAID: Development Credit Authority

Promotes	REDD+ Offset Supply and REDD+ Offset Demand
Builds	REDD+ Mitigation Activities, Primary Capital
Impacts	Catalyzes more direct funding to emission reductions projects and programs by lowering lender’s risk and increases equity investors returns by providing a leveraged capital structure for project finance
Recommendations / Instruments	Fund loan guarantees

6.7 OPIC: FUND INVESTMENTS

OPIC invests in private equity funds offering loans up to 1/3 of the total fund size. Since 1987, OPIC has invested approximately US\$ 4 billion in emerging market private equity funds, and the current portfolio consists of about US\$ 2.4 billion in commitments. The funds usually have a regional and/or technological focus and are typically managed by an affiliate of the sponsor(s) with a proven track record in direct equity investments, portfolio management, and relevant regional or sectoral experience. The fund manager generally adds value through portfolio management expertise, marketing, access to technologies, and a coherent exit strategy.

In 2010, OPIC committed to provide at least US\$ 300 million in financing for new private equity investment funds that could ultimately invest more than US\$ 1 billion in renewable resources projects in emerging markets. This is one of the USG’s largest contributions towards mitigating global climate change. Examples of OPIC’s investments include up to US\$ 150 million in the Mekong Renewable Resources Fund for environmental services and infrastructure investments in Cambodia, Vietnam and Laos; US\$ 193 million in the Grupo T-Solar (GTS) Peru Fund for construction and operation of 20 solar power projects in Peru; and US\$ 100 million in the Terra Bella Fund for community-based carbon credit-generating REDD+ projects globally (Table 10).

Recommendations

As an operational USG program, OPIC fund investments are accessible to any potential fund manager who can demonstrate a strong investment thesis, a high level of technical expertise, and financial management expertise. By OPIC following its strategic commitments to renewable and natural resources, it could look for additional ways in which it can invest in the REDD+ sector. There is also a valuable role that OPIC can play in working with other USG agencies to maximize the leverage of public and private funding sources and design of quasi-market mechanisms. As OPIC designs future calls for proposals, they could continue to support investment funds that support natural resource management and that derive value from carbon markets.

Pros and Cons

While providing early project finance capital through professionally managed pooled vehicles that can invest in “investment-grade” REDD+ and forest carbon projects, USG would need to assume only clearly known, funded, and understood risks taken by the private sector.

Table 10: Outcomes from OPIC: Fund Investments

Promotes	REDD+ Offset Demand
Builds	Primary Capital
Impacts	Provides early project finance capital through professionally managed pooled vehicles that can invest in “investment-grade” REDD+ and forest carbon projects
Recommendations / Instruments	Fund direct equity (actually debt structured as equity) investment through private equity funds

6.8 OPIC: POLITICAL RISK INSURANCE

OPIC provides insurance for a series of risks that are relevant to REDD+ activities within their geographical locations explained below. Coverage is allowed up to US\$ 250 million per project, up to 20 years in duration, and with premium rates that are guaranteed for the life of the contract. OPIC insurance is fully backed by faith and credit of the USG. Below are some types of insurance coverage including a brief assessment of their relevance to REDD+.

- **Expropriation/Improper Government Interference:** All subcategories can be applied to REDD+ projects without change (abrogation, repudiation, and/or impairment of contract, including forced renegotiation of contract terms; imposing of confiscatory taxes; confiscation of funds and/or tangible assets; outright nationalization of a project).
- **Political Violence:** War, revolution, insurrection, terrorism and sabotage, each of which is probably less relevant for REDD+.
- **Currency Inconvertibility:** There was a case several years ago where Chicago Climate Exchange (CCX) credits were blocked from leaving Brazil. This was because the landowner firm’s corporate structure did not clearly assign the carbon rights responsibility for the 8 different properties to the individual who signed off on the carbon agency agreement. OPIC could apply its coverage to carbon credits.
- **Standalone Terrorism:** Probably less relevant for REDD+.
- **Special Coverage:** Needs to be further explored for REDD+, could include settlement risk, model risk, and other coverages.
- **Small Business Coverage:** Needs to be further explored REDD+.

This year, OPIC issued its first political risk insurance contract to Terra Global Capital, LLC worth US\$ 900,000 for a REDD+ project implemented with the Government of Cambodia and local implementing partners and communities. The project is protecting over 64,000 hectares of forest land, providing training to local communities in forest management, creating many new jobs, and will issue carbon credits that will be sold in international markets. OPIC’s political risk insurance contract reduces investors’ risks in the project and helps to improve the overall investment profile for private capital markets in REDD+ projects. While small in covering the US\$ 900,000, it was a landmark innovation in the REDD+ sector. This provided OPIC with the first example of this insurance product, which can be leverage to provide valuable risk reduction to other private investors in the sector.

Recommendations

OPIC’s insurance coverages are accessible and readily available and can increase both supply and demand in REDD+ markets by reducing risks for investments into projects. OPIC could make its coverage generally available to the forest carbon sector and better known to all REDD+ market participants, both project proponents as well as REDD+ credit buyers. In addition, given the small size of many REDD+ early project investments, OPIC could promote insurance on pools of projects and streamline processes to make it efficient for OPIC to underwrite smaller investments (Table 11).

Pros and Cons

While reducing both primary and secondary market investors/buyers risk by providing investors assurances on political risk including the opportunity to underwrite regulatory risk associated with REDD+ host government, USG would need to assume only clearly known, funded, and understood risks taken by the private sector.

Table 11: Outcomes from OPIC: Political Risk Insurance

Promotes	REDD+ Offset Demand
Builds	Primary Capital, Secondary Demand
Impacts	Reduces both primary and secondary market investors/buyers risk by providing investors assurances on political risk including the opportunity to underwrite regulatory risk associated with REDD+ host government
Recommendations / Instruments	Write insurance policies

6.9 OPIC: LOAN STRUCTURES

OPIC can offer debt-financing in the form of direct loans and loan guaranties to support medium to long-term investment projects overseas. There are 3 different kinds of loans available from OPIC: corporate finance loans, project finance loans, and hybrid loan structures. Amongst the various structures these loans can take, including construction and development financing, lease purchases, and mortgage and green building finance, the one most closely-related and useful tool for REDD+ is mortgage securitization.

The terms of such loans will typically provide for a final maturity of 3 to 15 years, including a suitable grace period during which only interest is payable. The size of OPIC loans can range from US\$ 100,000 to US\$ 250 million per project at market rates of interest, with customary financing costs and fees borne by the borrower. OPIC does not make direct equity investments in projects. OPIC also does not provide grants or feasibility study assistance. OPIC-guaranteed loans are classified as eligible US government securities for insurance companies and many other institutional investors.

Recommendations

OPIC could explore the feasibility of loan readiness for the REDD+ sector, with a 10 to 15 year term, interest payments via REDD+ carbon sales, and potentially other income streams from the project area. These could be loans for REDD+ project finance that are repaid through the sale of carbon assets.

Another interesting, although potentially controversial, alternative could be that OPIC could collateralize the loan with the alternative land use against which REDD+ is currently losing, be it palm oil, cattle, soy, or whatever the specific usage within project area might be. Ideally, this could be an interest only loan and at term-end, it could be rolled over into a new loan. This scenario could essentially hold hostage the alternative, non-forest land use of the project area, or at least delay its conversion (Table 12). It could be verified whether collateral in the form of cattle, palm oil or other operations in the future could be acceptable, if loans are aggregated.

Pros and Cons

While reducing both primary and secondary market investors/buyers risk, USG would need to assume only clearly known, funded, and understood risks and would need to find an efficient way to support the small deal sizes currently found in the REDD+ sector.

Table 12: Outcomes from OPIC: Loan Structures

Promotes	REDD+ Offset Demand
Builds	Primary Capital, Secondary Demand
Impacts	Reduces both primary and secondary market investors/buyers risk
Recommendations / Instruments	Fund direct loans and loan guarantees

6.10 US TREASURY: TROPICAL FOREST CONSERVATION ACT

The Tropical Forest Conservation Act (TFCA) uses various forms of debt relief to steer money towards forest conservation and civil society strengthening. TFCA involves debt reduction/loan restructuring, debt-for-nature swaps or debt buy-backs. TFCA was enacted in 1998 to offer eligible developing countries options to relieve certain official debt owed the US Government, while at the same time generating funds in local currency to support tropical forest conservation activities. In addition to forest conservation and debt relief, TFCA is intended to strengthen civil society by creating local foundations that support small grants to non-governmental organizations (NGO) and local communities.

The program also offers a unique opportunity for public-private partnerships and the majority of TFCA agreements to date have included funds raised by US-based NGOs. Thus far (1998 - 2011), 18 TFCA debt treatment agreements have been put in place with 14 countries, for a total of US\$ 194 million. These transactions will generate over US\$ 295 million for tropical forest conservation in these countries over the life of the agreements. Third party funders (usually international conservation NGOs) participate in many transactions, increasing the size of individual agreements and contributing additional expertise to the management of programs. To date, 11 of the 18 TFCA agreements have used this public-private mechanism. To date only NGOs have participated in TFCA transactions, see for example the involvement of The Nature Conservancy in a TFCA debt swap to protect tropical forests in Borneo (The Nature Conservancy, 2011). There is no limitation to prevent commercial parties from contributing and participating. Involvement of private capital players in TFCA transactions could ensure that the public finance could be efficiently leveraged and put to work in a commercial REDD+ project context.

Recommendations

According to the US Treasury, TFCA funds can be used to develop institutional capacity and provide valuable start-up funding for REDD+ projects and programs like carbon readiness projects and programs such as MRV capability strengthening, yet TFCA funding cannot be used to pay for offsets themselves. This could be particularly interesting to national and sub-national governments that have to build the institutional framework to support programs that can directly produce emission reductions (Table 13).

Pros and Cons

While this recommendation directs valuable funding to building the required institutional frameworks to promote REDD+ projects and programs and supports the start-up implementation costs, USG would need to minimize transactions costs and would need explicit covenants to maintain expectations.

Table 13: Outcomes from US Treasury: Tropical Forest Conservation Act

Promotes	REDD+ Offset Supply
Builds	Institutional Frameworks, REDD+ Mitigation Activities
Impacts	Directs valuable funding to building the required institutional frameworks to promote REDD+ projects and programs and supports the start-up implementation costs
Recommendations / Instruments	Fund development of institutional capacity and provide valuable start-up funding for REDD+ projects and programs

6.11 US TREASURY: OFFICE OF TECHNICAL ASSISTANCE

Acknowledging the fundamental importance of the US Treasury International Affairs Office of Technical Assistance's (OTA) mission, "to develop strong financial sectors and sound public financial management in countries where assistance is needed and there is a strong commitment to reform," the President's FY 2012 budget request for OTA provides US\$ 30.1 million to strengthen economic and financial governance in fragile and developing countries. OTA focuses on five core financial disciplines: revenue policy and administration; budget and financial accountability; government debt issuance and management; banking and financial services; and economic crimes. OTA provides training and advice to Finance Ministers, Central Bank Governors, and other government officials in these core disciplines. This funding could be applied to developing national forest carbon registries with fungible forest carbon emission reductions for host countries, in order to catalyze private sector REDD+ activities. For example, OTA previously raised US\$ 750 million from debt markets for infrastructure investments in Ghana.

Recommendations

OTA funding could be applied, combining expertise within a whole-of-government approach including Treasury, EPA, USDA/USFS, and USAID and some private sector involvement also, to developing national forest carbon registries that meet international finance best practices for host countries as a method to catalyze private sector financial REDD+ activities. OTA assistance could also be provided in developing a "green bond" for these countries where OTA could raise capital from global institutional investors, such as pension funds and sovereign wealth funds (Table 14).

Pros and Cons

While supporting the REDD+ host countries in creating investment enabling environments, this recommendation would require clarity regarding hypothecation such that non-performance would not encumber community held property or disproportionately impact sovereign credit ratings.

Table 14: Outcomes from US Treasury: Office of Technical Assistance

Promotes	REDD+ Offset Supply
Builds	Institutional Frameworks, Primary Capital
Impacts	Supports the REDD+ host countries in creating investment enabling environments
Recommendations / Instruments	Fund structured finance technical assistance for REDD+ host-country sovereigns

6.12 ENVIRONMENTAL PROTECTION AGENCY

The US Environmental Protection Agency (EPA) is charged with implementing the Clean Air Act, a law that aims to protect and improve the nation's air quality and stratospheric ozone layer. Under the legal setting, US EPA must continue to regulate GHGs under the Act, creating potential opportunities for the use of forest carbon emission reductions as qualifying offsets.

Recommendations

Because of the potential cost advantages of emission reductions from REDD+ versus other emission reduction approaches, the EPA could incentivize the use of forest carbon emission reductions in its regulation of GHGs under the Clean Air Act. By allowing the use of forest carbon emission reductions, the EPA could help create end-demand for forest carbon, without federal cap and trade regulation, allowing regulated entities to use verified emission reductions to meet Clean Air Act compliance (Table 15).

Pros and Cons

While clarifying a source of secondary demand and end-buyers of forest carbon emission reductions, this would need legal clarity under the Clean Air Act since these actions would likely be litigated and would need to adopt acceptable accounting and social safeguard standards for credits applied to obligations under the Clean Air Act.

Table 15: Outcomes from Environmental Protection Agency

Promotes	REDD+ Offset Demand
Builds	Secondary Demand
Impacts	Creates another source of end-buyers of forest carbon emission reductions
Recommendations / Instruments	Qualifies market-based purchases or credits against compliance requirements

6.13 FEDERAL TRADE COMMISSION: RULES ON GREEN MARKETING CLAIMS

In October of 2010, the Federal Trade Commission (FTC) released a “Guides for the Use of Environmental Marketing Claims; Proposed Rule” about how to regulate green marketing claims such as “carbon neutral” or other carbon emission reductions claims. Within compliance markets, the rules around how the vintage year of a carbon credit relates to its use as a compliance instrument in a specific year or compliance period are determined by eligibility provisions such as bankability rules.

In voluntary markets this issue is trickier because voluntary buyers often want the emission reductions they pay to have already taken place on the ground. But in some cases, payment from the upfront sale of voluntary credits is necessary in order to initiate implementation of a project that will eventually create emission reductions. These types of transactions carry a certain risk of being labeled as not credible, and they also pose liability risks. And in the voluntary market there exists no regulation to ensure the accounting of emission reductions used by voluntary buyers is sound or that reductions are actually purchased and permanently retired and tracked in a credit-worthy registry.

Recommendations

Especially in voluntary markets, the timing of emission reductions in relation to when the carbon emission reduction claim is being made is relevant for marketing purposes. The FTC provides oversight of environmental marketing claims. If the FTC developed rigorous standards for marketing claims that included specific guidelines for REDD+ offsets including the social and environmental benefits, this could ensure that offsets used by corporate offsetters had environmental integrity and it could be a way to promote REDD+ because of the added co-benefits (Table 16). This would require specific enforcement provisions.

Pros and Cons

While ensuring CSR buyers purchase creditable REDD+ offsets resulting in providing additional end buyers and securing REDD+ secondary demand and liquidity, this would also require standardized marketing claims administration with clear labeling and accounting standards that promote environmental sound and socially responsible REDD+ projects and programs.

Table 16: Outcomes from Federal Trade Commission: Rules on Green Marketing Claims

Promotes	REDD+ Offset Demand
Builds	Secondary Demand
Impacts	Ensures CSR buyers purchase creditable REDD+ emission reductions. Provides additional end buyers and forces labeling and accounting standards that promote environmental sound and socially responsible REDD+ projects and programs
Recommendations / Instruments	Ensures quality of voluntary and compliance-grade offsets

6.14 MILLENNIUM CHALLENGE CORPORATION

The Millennium Challenge Corporation (MCC) is working with countries to develop programs that not only address poverty concerns, but also enhance natural resource management (NRM), maintain ecosystems and help countries bolster their resilience to the impacts of climate change. MCC provides countries with large-scale grants to fund country-led solutions for reducing poverty through sustainable economic growth. Since 2004, MCC has provided grants valued at over US\$ 8.4 billion in such sectors as agriculture and irrigation, water supply and sanitation, finance and enterprise development, and land rights and access. For example, MCC is supporting wetland conservation and management in Lesotho, agribusiness development in Ghana, and green prosperity and low-carbon growth in Indonesia. For this latter example, MCC recently signed a US\$ 450 million compact with Republic of Indonesia that includes funding for the Indonesia Climate Change Center, Department of State’s Science, Oceans, Land Use, Society and Innovation low carbon emissions development program, rainforest and peatland conservation, coral reef protection efforts, better fisheries and coastal management, and air quality programs.

Recommendations

REDD+ activities are very well-aligned with MCC’s overarching themes to bolster resilience to climate change, as well as its goals to support land rights, access to finance, and enterprise development. Mimicking the climate change and green prosperity criteria associated with the negotiated US – Indonesia MCC compact in the other developing nations could provide a powerful mechanism to promote climate finance and forest carbon finance globally. These compacts in select countries could be more geared toward addressing REDD+ related constraints in these countries. Also, MCC compacts could provide key grants within public / private partnerships resulting in catalyzing and magnifying private capital investments in REDD+ projects and programs (Table 17).

Pros and Cons

While providing important upfront donor-based funding for government led REDD+ activities, USG would need to assume only clearly known, funded, and understood host-country level interests and priorities.

Table 17: Outcomes from Millennium Challenge Corporation

Promotes	REDD+ Offset Demand
Builds	Primary Capital
Impacts	Provides important upfront donor-based funding for government led REDD+ activities
Recommendations / Instruments	Funds REDD+ projects and programs

6.15 USG REDD+ CARBON PURCHASE FACILITIES

Note: Recommendations 6.2 – 6.14 build upon existing instruments/policies, but this recommendation (6.15) proposes the creation of a new entity.

The overwhelmingly largest challenge facing REDD+ is that there is limited end demand for REDD+ emission reductions to provide market liquidity, price signals and thus investment certainty for private capital to flow. Investors are slowly starting to move into the sector, but concerns over how quickly true end-market demand from compliance buyers will develop is a significant hurdle to overcome when trying to attract the magnitude of private investment needed in the sector. Were the USG to create and/or fund facilities that purchase verified emission reductions (that meet development objectives) through the deployment of public funds under a pay-for-performance or results-based facilities, it could provide valuable secondary demand to

catalyze primary capital investments. This could also create a clear signal for public and private sector market participants and could catalyze private sector finance.

This could enable REDD+ project proponents and investors to implement their projects with a known buyer and/or a form of downside protection in place. This is analogous to what the World Bank’s Prototype Carbon Fund and the Dutch Carbon Facility did in the years before the first commitment period of the Kyoto Protocol started, and again what several post-2012 carbon funds have done in recent years due to a lack of regulatory certainty after 2012. A USG coordinated pre-market REDD+ purchase facility could go a long way toward providing the necessary demand signal to this market. Since it is unlikely and possibly not the best solution that one single USG agency comes up with a significant amount of money to capitalize such a facility, a potential option could be to pool money from various USG and non-USG entities into one REDD+ purchase facility allowing for public funds to catalyze and magnify private capital investment. As an option, such a facility could be tendered out to a commercial entity to run it. In order to optimize the use of the facility’s funds, this could be awarded using a reverse auction to the entity with the best track record, management as well as REDD+ market expertise.

Recommendations

The USG and non-USG entities mentioned in this report may be engaged to discuss the feasibility of such a REDD+ purchase facility. No agency has the promotion of REDD+ markets as their sole purpose. For many agencies though, the promotion of functioning REDD+ markets are well within their strategic mission. Also, a significant portion of the USG-pledged fast-start money could be used to finance such a facility.

The purchase facility could be an interim facility to support the development of a price for verified emissions, but could need to support a stream of medium term (5 to 10 year) purchases and could need to have open architecture. The reference to “open architecture” means, that the design of the pay-for-performance program could allow access for all types of investors (not just governments) to receive payments for verified emission reductions that meet the program requirements. This could ensure that early private investors could provide primary project finance, as secondary market buyers of emission reductions. Such a USG-backed REDD+ purchase facility could satisfy one clear need shared by private sector market participants. With the lack of strong secondary demand due to the absence of a clear regulatory signal for REDD+, having such a facility as a buyer of last resort could unleash investments in REDD+ projects and programs.

The USG, possibly led by the US Commodity Futures Trading Commission, given the market-based nature of this recommended facility, could provide multiple forms of support for end-market demand through purchase facilities. This could be implemented through a USG only facility and/or in conjunction alongside multilateral facilities (Table 18).

Pros and Cons

While complementing the development of the emerging market for REDD+ through providing early investors with an outlet for secondary market sales and/or price floors, this would require arms-length transactions along with clear and specific limits on tax-payer funded donor capital that would capitalize REDD+ purchase facility.

Table 18: Outcomes from USG REDD+ Carbon Purchase Facilities

Promotes	REDD+ Offset Demand
Builds	Secondary Demand
Impacts	Complements the development of the emerging market for REDD+ it provides early investors with an outlet for secondary market sales and/or price floors
Recommendations / Instruments	Provides buyer for quasi-market based purchases or price guarantees

6.16 USG REDD+ SMALL-GRANT FUNDING FACILITIES

Note: Recommendations 6.2 – 6.14 build upon existing instruments/policies, but this recommendation (6.16) proposes the creation of a new instrument.

In line with the situation that many REDD+ projects require relatively small, upfront funds to develop the requirements for a project to meet the requirements of a private investor. The USG could co-finance upfront project development costs. These relatively small, fixed subsidies could provide full or partial seed capital funding, possibly up to US\$ 200,000 to US\$ 400,000, in countries that have already had sufficient work of 6.2 and 6.3 done. This could be gradually expanded and could include a funding match element and an open competition element, so that USAID Missions or a central office could select what look like the best applicants from a variety of sources including both NGOs and for-profit investors. Finally, recipient projects could be required to fit within a project profile that could allow for further capital markets financing given existing pre-approved structures.

Recommendations

USG's exposure would be known and fixed, and the benefit from future carbon income streams could be estimated upfront. If this included a match requirement it would ensure only serious applicants, and the competition would improve the selection process (Table 19). These funding mechanisms could support 6.2 by focusing on REDD+ projects that reward local stakeholders and communities with strong land / tree / carbon tenure as part of the process developing their REDD+ project.

Pros and Cons

While providing seed capital financing awarded to projects that fit within pre-approved investment structures, this would also require that the USG understand how an approved and funded project would receive possible secondary private capital financing.

Table 19: Outcomes from USG REDD+ Small-Grant Funding Facilities

Promotes	REDD+ Offset Supply
Builds	Primary Capital
Impacts	Provides seed capital financing awarded to projects that fit within pre-approved investment structures
Recommendations / Instruments	Provides seed capital funder for projects

6.17 US GOVERNMENT SECONDARY OPPORTUNITIES

Sections 6.1 through 6.16 above are the principal opportunities and recommendations to utilize USG instruments and policies to catalyze private and public sector investment into REDD+ activities. These opportunities were prioritized because of their impact and potential for implementation. The following secondary opportunities were also identified (Table 20).

These secondary opportunities are also significant in they provide other avenues for the USG to impact REDD+ Institutional Frameworks, REDD+ Mitigation Activities, Primary Capital, and Secondary Capital. These secondary opportunities, while not as critical as the opportunities described in Section 6.1 to 6.16, also deserve further review for their strategic importance in providing options to catalyze capital markets engagement in the REDD+ sector.

Table 20: Outcomes from US Government Secondary Opportunities

USG Agencies / Programs / Commissions	Activities	REDD+ Opportunity	Pros	Cons
Food and Drug Administration and Department of Agriculture Footprint Labeling	Labeling of nutrition values for food.	Eco-labeling of products in terms of their forest footprint of deforestation.	Builds upon success of existing eco-labeling communication pathways.	New concept successfully employed in Europe may need further development.
US Fish and Wildlife Service - Lacey Act Enforcement	Prohibits transport and sale of wildlife, fish, and plants illegally taken.	Prevention and enforcement of illegally-harvested timber to create a legal chain of timber custody.	Existing US law could be aligned with REDD+ mitigation activities.	May need legal and administration clarity.
Commodity Futures Trading Commission / Securities and Exchange Commissions	On January 18, 2011, the CFTC completed its report by the Interagency Working Group for the Study on Oversight of Carbon Markets on the oversight of existing and prospective carbon markets in the United States, fulfilling a requirement established in Section 750 of the Dodd-Frank Wall Street Reform and Consumer Protection Act. This report highlighted the critical role of oversight in a properly functioning carbon market, as well as confirmed that the CFTC currently has the proper authority necessary to police the market.	Coordinate with SEC to clarify pathways forward describing scenarios how REDD+ investments and transactions can be recognized under US accounting standards and how trading emission reductions in REDD+ can be supported under US law.	By providing regulatory analysis and clarity, transaction costs would decrease.	Institutional platforms may need to be expanded.
USAID, Treasury, Commodity Futures Trading Commission, or Securities and Exchange Commission	Create a forest carbon price index that provides transparency to prices in the global REDD+ and forest carbon offsets.	The index will provide sellers and buyers transparency for structuring transactions and will allow for stronger profit sharing terms and clearer cost-of-funds.	Index would decrease transactions costs.	Institutional platforms may need to be expanded and market-quality data aggregated.

USG Agencies / Programs / Commissions	Activities	REDD+ Opportunity	Pros	Cons
United States Trade and Development Agency	USTDA provides grants directly to overseas sponsors who, in turn, select US companies to perform Agency-funded project activities. An overseas sponsor is a public or private entity with the authority and ability to implement a project. Covered sectors include the environment covering financing for feasibility studies, pilot projects, and technical assistance.	Apply USTDA grants mechanisms to REDD+ activities to finance feasibility studies, pilot projects, and technical assistance following USTDA US company hiring guidelines.	Provides primary capital for REDD+ activities.	Needs to have appropriate natural resource management skills on grant vetting team to determine best-in-class grant recipients.
US Internal Revenue Service Tax Credit for REDD+	Provides tax credit for geological sequestration of carbon capture and storage from renewable energy projects, Form 8933: Carbon Dioxide Sequestration Credit.	Widen current eligibility of Form 8933: Carbon Dioxide Sequestration Credit to include tax credit for REDD+ biogenic sequestration activities.	Provides indirect primary capital for REDD+ activities.	Requires tax code adjustment to include Form 8933 carbon dioxide sequestration credit definition to include biogenic sequestration.

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APPENDIX I: SUMMARY TABLE OF RECOMMENDATIONS

Table 21: Summary Table of Recommendations

USG Agencies / Programs	Activities	REDD+ Recommendations
6.1 USG: REDD+ Coordination & Focus	No formal coordination body tasked with developing and catalyzing private sector finance activities currently exists.	Develop an inter-agency coordination body to implement executable REDD+ investment-grade financial architecture and funding strategies.
6.2 USAID EGAT: Improved Processes for Securing Land & Carbon Tenure	Promoting property rights, policies, and financial arrangements that foster stewardship activities and other efforts around land titling in REDD+ countries.	Support programs designed to help governments build approval processes and standardized approaches to carbon development agreements, based on the specific land tenure schemes in the country.
6.3 USAID EGAT: Harmonizing Reference Emissions Levels, MRV & Financial Mechanisms	Facilitating reference-level emissions; measurement, reporting, and verification; and pilot projects.	Technical assistance and capacity building to scale up and harmonize projects into national systems, and setup financial mechanisms that support the on-going, direct crediting of emission reductions to project participations.
6.4 USAID: Development Innovations Ventures	Providing private equity capital to replicate and scale projects with the potential to significantly improve development outcomes.	Investments in technologies around REDD+, including GIS, inventory, monitoring, statistical design, etc.
6.5 USAID: Global Development Alliance	Facilitating private partnerships to leverage public funding for joint development purposes, including in climate change mitigation and adaptation.	Pilot a REDD+ pay-for-performance and market-based system to catalyze private investment.
6.6 USAID: Development Credit Authority	Issue partial credit guarantees covering up to 50% of loss on loans.	Offer loans to commercial ready projects and develop a pool of lenders that are educated on the economics of REDD+.
6.7 OPIC: Fund Investments	Providing private equity funds offering loans up to 1/3 of the total fund size, including for renewable resource projects.	Increasing number of realized REDD+ projects, and continuing to support natural resource management investment funds that derive value from carbon markets.
6.8 OPIC: Political Risk Insurance	Providing political risk insurance for many risks that are relevant to REDD+ activities.	Offer insurance for REDD+ projects to increase investor confidence and geographic scope of potential REDD+ host countries.
6.9 OPIC: Loan Structures	Providing debt-financing in direct loans and loan guarantees for overseas investment.	Provide loans for REDD+ that are repaid through the sale of carbon assets, and potentially using competing, higher-value land uses as collateral.

USG Agencies / Programs	Activities	REDD+ Recommendations
6.10 US Treasury: Tropical Forest Conservation Act	Debt-for-nature swaps.	Develop institutional capacity and provide valuable start-up funding for REDD+ projects and programs.
6.11 US Treasury: Office of Technical Assistance	Strengthen economic and financial governance in developing countries.	Develop national forest carbon registries or possible green bonds to incentivize functioning forest carbon financial architecture.
6.12 Environmental Protection Agency	Enforces US Clean Air Act and has facilitated carbon emission reductions schemes in the past.	Incentivize land use based carbon emission reductions in existing US schemes.
6.13 Federal Trade Commission: Rules on Green Marketing Claims	Regulating green and carbon neutral marketing claims.	Inclusion of REDD+ specific standards in the development of marketing standards for offsetting.
6.14 Millennium Challenge Corporation	Providing grants that enhance NRM maintain ecosystems and bolster resilience to impact of climate change.	Because REDD+ is so well-aligned with mission, include grants for developing REDD+ globally.
6.15 USG REDD+ Carbon Purchase Facilities	New facility that creates end demand for REDD+ emission reductions currently exists.	Create a carbon purchase facility that generates secondary demand and investment certainty for private money flows for REDD+.
6.16 USG REDD+ Small-Grant Funding Facilities	Provides seed capital financing awarded to projects that fit within pre-approved investment structures.	Funds seed capital for REDD+ projects within competitive selection process.

APPENDIX II: INSTITUTIONS CONSULTED FOR THIS REPORT

Donors

- GEF: Ian Gray and Ulrich Apel
- USAID: Mike Colby, Jason Girard, Heather Huppe, Scott Lampman, and Erik Streed

NGOs and Associations

- Carbon Disclosure Project: Stephen Donofrio
- Carbon Fund: Brian McFarland
- Carbon Markets and Investors Association: Leticia Labre
- Climate Bonds Initiative: Sean Kidney, Bryan Martel, and Simon Petley
- Ecosystem Marketplace: David Diaz
- International Emissions Trading Association: Anthony Mansell
- International Institute for Sustainable Development: Franz Tattenbach
- The Clinton Foundation: Jennifer Rockwitz
- The International Small Group and Tree Planting Program (TIST): Ben Henneke and Vanessa Henneke
- The Nature Conservancy of Canada: Kamal Rajani
- Verified Carbon Standard: David Antonelli

Private Sector

- Asesorandes: Roberto Persivale
- Bank of America Merrill Lynch: Abyd Karmali
- Carbon Credit Corporation: Shawn Burns
- Climate Advisors: Nigel Purvis and Michael Wolosin
- Ecosystems Insurance Associates, LLC: Robert Spoth
- Enviromarkets: Simon Petley
- Environmental Capital Group: Bryan Martel
- Face the Future: Justin Whalen
- Global Forest Partners LP: Peter Mertz and David Gardner
- Jadora, LLC: Talitha Haller
- McKinsey: Anonymous
- McGuire Woods LLP: Cameron Prell
- Northrup Corporation: Gus Kent
- Pacific Forest Trust: David Moffat and Jacob Stein
- Thomson Reuters: Olga Chistyakova, Justin Felt, and Robert Kaineg
- Terra Global Capital, LLC: Kevin Brennan, CFA
- Viridor: Bryan Rauch
- World Economic Forum: Lieske van Santen

APPENDIX III: AGENCIES, BOARDS, COMMISSIONS, CORPORATIONS, COUNCILS, DEPARTMENTS, AND PROGRAMS REVIEWED

United States Federal Executive Departments

- Department of Agriculture
 - Office of Environmental Markets
 - US Forest Service
- Department of Commerce
 - International Trade Administration
- Department of Defense
- Department of Education
- Department of Energy
- Department of Health and Human Services
 - Center for Disease Control
- Department of Homeland Security
- Department of Housing and Urban Development
- Department of Interior
 - Bureau of Indian Affairs
 - Carbon Storage Project
 - Climate Science Centers and Landscape Conservation Cooperatives
 - US Fish and Wildlife Service
- Department of Justice
 - Environment and Natural Resources Division
- Department of Labor
- Department of State
 - Bilateral Climate and Energy Partnerships
 - North American Leaders' Declaration on Climate Change and Clean Energy
 - US - India Partnership on Clean Energy, Energy Security, and Climate Change
 - US - Mexico Bilateral Framework on Clean Energy and Climate Change
 - Major Economies Forum on Energy and Climate
 - Office of Global Food Security
 - Office of the Special Envoy for Climate Change
- Department of Transportation
- Department of Treasury
 - International Affairs Overseas Technical Assistance
 - Internal Revenue Services

- Office of the Comptroller of the Currency
- Office of Thrift Supervision, former
- Department of Veterans Affairs

Agencies, Boards, Commissions, Corporations, Councils, and Programs

- Commodity Futures Trading Commission
- Environmental Protection Agency
 - Climate Ready Water Utilities Working Group
- Export-Import Bank of the United States
- Farm Credit Administration
- Federal Accounting Standards Advisory Board
- Federal Deposit Insurance Corporation
- Federal Reserve System
- Federal Retirement Thrift Investment Board
- Federal Trade Commission
- Millennium Challenge Corporation
- Overseas Private Investment Corporation
- Pension Benefit Guaranty Corporation
- Railroad Retirement Board
- Securities and Exchange Commission
- Small Business Administration
- Social Security Administration
- The Council on Environmental Quality
- United States Agency for International Development
 - Indonesia Forest and Climate Support Project
 - Partnership for Land Use Science Program
 - Tropical Forest Conservation Act Secretariat
- United States International Trade Commission
- United States Trade and Development Agency

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